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MasterSeal® 909 (Formerly known as Masterflex® 900)

Re-injectable Hose Waterstop System for Construction and Cold Joints In Concrete

DESCRIPTION OF PRODUCT

MasterSeal® 909 is an advanced injection hose system for installation in construction joints, ready for subsequent injection of cementitious or polymeric compounds to ensure watertightness. The hose construction is tough, flexible, resilient and chemically inert. It is not affected by low temperature and immersion in water. **MasterSeal® 909** is designed to replace waterbar for use in concrete structures which contain joints other than expansion joints and subject to hydrostatic pressure on one or both faces of the structure.

FIELDS OF APPLICATION

- Water reservoirs/tanks
- Canals
- Dams
- Sewage treatment plants
- Liquid storage vessels
- Any sub base concrete construction
- Water excluding or retaining structures

FEATURES AND BENEFITS

- Water cannot penetrate treated joint and rebar, unlike traditional installation where water is in contact with the reinforcement up to the waterbar.
- Fast easy installation procedures even to complicated design detail.
- System enables retro-injection, to stop leaks caused subsequently by settlement or structural movement at the construction joint.
- Completely maintenance free.
- Installation allows testing for water leaks.
- Hose is re-injectible and permits re-injection if leakage persists or reappears at a later date.
- Neoprene strips act as “one way valves” and prevents injection material from returning even under back pressure.
- Solid inner core does not collapse under concrete pressure. Allows smooth flow of injected material.
- Chemically inert does not deteriorate even if exposed to such injection materials as polyurethanes, vinyls esters, epoxies and cements
- Flexible and easy installation at corners without cutting and jointing.

TECHNICAL DATA

Material	PVC
Color	Blue
External Diameter	19 mm
Longitudinal Injection Hole Diameter	6 mm
Discharge Holes Diameter	3 mm



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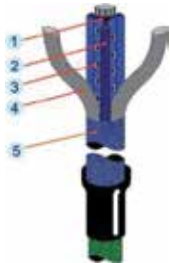
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APPLICATION PROCEDURE

MasterSeal® 909 System Components

The unique hose (see Fig 1) has a solid blue inner core with a longitudinal injection hole. Three moulded grooves run along its length with a number of 3 mm diameter openings on each of them at 10 mm staggered intervals. Closed cell neoprene strips cover the three grooves and act as one way valves. The entire system is held together by a wide meshed nylon fabric sleeve.



1. Injection diameter 6mm.
2. Solid hose core for resisting concrete pressure.
3. The lateral openings with a diameter of 3mm, each staggered by 1cm, ensure a uniform discharge of the injection material.
4. The three neoprene strips in the longitudinal grooves act as non return valves.

Action of neoprene strips as non return valves

Due to the external concrete pressure, the neoprene strips seal the discharge holes and prevent the laitance from entering the hose. The neoprene strips compress due to the internal injection pressure, and allow the discharge of the injected material to fill the joint. With the

removal of injection pressure, the neoprene strips reseal the discharge holes to prevent material from flowing back.

Outside diameter 19mm, longitudinal internal injection hole diameter 6mm, discharge openings diameter 3mm.

Preparation of Substrate

The surface where the injection hose will be installed must be clean and smooth. The surface generated by an internal vibrator while compacting the concrete will usually be suitable without any need for additional trowelling. Before injection, patch up all surface honeycombs located close to the joint, by using **MasterEmaco® S 488** and **MasterEmaco® N 900** (till 5 mm) and MasterSeal 591 as a fast setting mortar. Remove all loose materials from the surface, such as stones, dust, etc., before installing the hose.

APPLICATION

Hose assembly-Fabricate **MasterSeal® 909** hose in lengths of max. 10 m. To both ends of the hose, securely fix approximately 400 mm (or as required by the structure) lengths of vent hose and cover the joints with 60 mm of heat shrinkable plastic sleeve. The vent hose is used as an injection port and hence does not have discharge holes. The different colours (green and clear) of the vent hoses are to identify the function of each (input or exhaust) during injection.

Hose Assembly

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Placing of Hose

Place **MasterSeal® 909** along the centreline of the concrete section. In very thick sections, position the hose approx. 200-300 mm from the water entry side. After installation, all **MasterSeal® 909** hoses should be protected from oil, dirt, concrete splatter and mechanical damage and should be left clean to receive concrete cover. Ensure that the hose and at least 50 mm of the nylon vent hose are encased in at least 50 mm of concrete, with the vent ends (injection ends) clearly visible outside after pouring the concrete. The minimum distance between two parallel hose sections shall have a clearance of approximately 50 mm.

Fixing of Hose

Drill 6 mm diameter holes, approx. 50 mm deep and 250 mm apart, along the line of the hose. Clamp the hose firmly using **MasterSeal® 909**. Clips, to hold the hose in contact with the surface without allowing it to float up when fresh concrete is poured. Do not fasten the hose to reinforcement bars.

Injection

The waiting time for injection after the pouring

of concrete is dependent on the curing time of concrete. The minimum period should be 28 days.

Start injection always at one end. Fill the hose with injection material using an injection pump until it flows out at the other end and plug that end with a special packer. Ensure the pump achieves an injection pressure of at least 2 bars and continue pumping while material is being consumed. When the pressure stabilises and no more material is being injected, increase the pressure to approximately 20 bars for 5 minutes only. When no drop in pressure is noticed, stop the injection.

Apply the same procedure from the other end of the MasterSeal 909 hose to make sure that over the whole length of joint, a similar pressure distribution is achieved. Immediately after injection, clean the hose of unset injection material if MasterSeal 901 is used, by applying a vacuum pump and flushing with water. The hose is now ready for re-injection should it ever become necessary.

PACKAGING

Two boxes comprising the following:

Box 1

100 meters blue re-injectable hose

Box 2

- a) 20 meters green vent hose
- b) 20 meters transparent vent hose
- c) 2 meters shrink on sleeve
- d) 2 meters connecting nozzle
- e) 30 closure plugs
- f) 500 anchor clips



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SHELF LIFE

No shelf life limitation under appropriate storing conditions.

HEALTH AND SAFETY PRECAUTIONS

Avoid contact to eyes and mouth during storing and application. Consult a physician urgently if such a contact occurs. Food and drink must be kept outside the application areas. Must be stored away from children. Please look at the Material Safety Data Sheet for detailed information.

DISCLAIMER

The technical information given in this publication is based on the present state of our best scientific and practical knowledge. **BASF Türk Kimya Sanayi ve Tic. Ltd. Şti.** is only responsible for the quality of the product. **BASF Türk Kimya Sanayi ve Tic. Ltd. Şti.** is not responsible for results that may occur because the product is used other than advised and/or out of instructions regarding the place and the method of use. This technical form is valid only till a new version is implemented and nullifies the old ones.

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